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flow stream is also enlarged as the flow stream moves through the conduit, however, the change of direction of the flow stream and the expansion of the cross section of the flow stream should occur at different times and spatial locations along the conduit.

Where possible, the flexible conduit **38** extends generally directly down the board line. It is contemplated that the conduit **38** may extend linearly at least as much as 60 inches (150 cm) past the mixer **12**. The benefits of improved foam/slurry mixing achieved by the present invention include: reduction and/or elimination of blisters in the board; uniformity of the board, leading to improved strength; and potential water reduction from the board formulation, which in turn will lead to energy savings in the kiln or an increase in line speed.

While specific embodiments of the slurry conduit of the present invention have been shown and described, it will be appreciated by those skilled in the art that changes and modifications may be made thereto without departing from the invention in its broader aspects and as set forth in the following claims.

The invention claimed is:

**1.** A method of providing an evenly mixed additive enhanced gypsum slurry to a web, comprising:

inserting calcined gypsum and water into a mixing chamber of a mixer through at least one inlet of the mixing chamber;

agitating the contents of the mixing chamber to form a slurry comprising an aqueous dispersion of the calcined gypsum;

passing the slurry from an outlet of the mixer into a slurry dispensing apparatus including a conduit;

introducing an additive into the slurry at a point along a length of the conduit in the slurry dispensing apparatus to achieve a flow stream of a slurry/additive mixture through the conduit;

changing a direction of the flow stream while not changing a cross section of the flow stream, and thereafter, directing the flow stream through a linear leg of the conduit without changing a cross section of the flow stream or a direction of the flow stream, and thereafter, changing a direction of the flow stream while not changing a cross section of the flow stream, and thereafter expanding a cross section of the flow stream in the conduit while not changing a direction of the flow stream, all prior to the flow stream exiting from an outlet of the conduit.

**2.** The method of claim **1**, further including maintaining a generally smooth flow of the slurry in the slurry dispensing apparatus from a point of introduction of the additive to the outlet of the conduit.

**3.** The method of claim **1**, wherein the changing of the direction of the flow stream comprises a change of direction in the range of 30 to 90 degrees.

**4.** The method of claim **3**, wherein the change of direction comprises approximately 90 degrees.

**5.** The method of claim **1**, wherein the additive comprises a foam with an air content.

**6.** An apparatus configured for connection to a mixer for receiving a gypsum slurry, said apparatus comprising:

a conduit having a main inlet in slurry receiving communication with the mixer outlet and extending in a downstream direction to a spout for discharging the slurry, said conduit providing a flow path for a flow stream of the slurry;

two spaced apart bends in said conduit to cause a change of direction of said flow stream between said main inlet and said spout, wherein a cross section of the flow stream does not expand in the bends;

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a linear section of said conduit extending between the two bends, wherein the cross section of the flow stream does not expand in the linear section, and

at least one expansion section in said conduit to cause an expansion of a cross section of said flow stream between downstream one of the two bends and said spout, wherein the flow stream does not change direction in the at least one expansion section.

**7.** The apparatus according to claim **6**, wherein said conduit has at least one inlet between the main inlet and the discharge spout for receiving at least one additive, and is of sufficient length for obtaining uniform mixing of the at least one additive with the slurry prior to dispensing of the slurry from the spout.

**8.** The apparatus according to claim **6**, wherein each of the two bends is in the range of 30 to 90 degrees.

**9.** The apparatus according to claim **8**, wherein each of the two bends is approximately 90 degrees.

**10.** A method of providing an evenly mixed additive enhanced gypsum slurry to a web, comprising:

inserting calcined gypsum and water into a mixing chamber of a mixer through at least one inlet of the mixing chamber;

agitating the contents of the mixing chamber to form a slurry comprising an aqueous dispersion of the calcined gypsum;

passing the slurry from an outlet of the mixer into a slurry dispensing apparatus including a conduit;

introducing an additive into the slurry at a point along a length of the conduit in the slurry dispensing apparatus to achieve a flow stream of a slurry/additive mixture through the conduit; and

changing a direction of the flow stream while not changing a cross section of the flow stream, and thereafter, directing the flow stream through a linear leg of the conduit without changing a cross section of the flow stream or a direction of the flow stream, and thereafter, expanding a cross section of the flow stream without changing a direction of the flow stream, and thereafter changing a direction of the flow stream while not changing a cross section of the flow stream, all prior to the flow stream exiting from an outlet of the conduit.

**11.** The method of claim **10**, wherein the changing of the direction of the flow stream comprises a change of direction in the range of 30 to 90 degrees.

**12.** The method of claim **11**, wherein the change of direction is approximately 90 degrees.

**13.** An apparatus configured for connection to a mixer for receiving a gypsum slurry, said apparatus comprising:

a conduit having a main inlet in slurry receiving communication with the mixer outlet and extending in a downstream direction to a spout for discharging the slurry, said conduit providing a flow path for a flow stream of the slurry;

a first bend in said conduit to cause a change of direction of said flow stream between said main inlet and said spout, wherein a cross section of the flow stream does not expand in the bend;

a linear segment in said conduit between said first bend and said spout, wherein a cross section of the flow stream does not expand in the linear segment;

at least one expansion section in said conduit to cause an expansion of a cross section of said flow stream between said linear segment and said spout, wherein the flow stream does not change direction in the at least one expansion section; and